

## II. SPECIFICATION AMENDMENTS

Please replace the paragraph/section beginning on page 4, line 25, through page 5, line 3, as rewritten below:

A GPS receiver and a method for processing GPS signals have been presented in the international patent application WO 97/14057. ~~In the main, The~~ receiver presented in this specification comprises two separate receivers, of which the first receiver is intended for use in a situation where the strength of the receiver signal is sufficient, and the second receiver is intended for use in a situation where the strength of the received signal is not sufficient for a sufficiently accurate location determination when the first receiver is used. In this second receiver, the received signal is digitized and saved in memory media, whereby these saved signals are later processed in a digital signal processing unit. The digital signal processing unit performs convolution operations to the received, digitized signal. The purpose of these convolution operations is to calculate pseudoranges. The number of PM frames saved in the memory media is typically from one hundred to one thousand, which corresponds to a signal of the length of 100 ms to 1 s. After this, a saved code corresponding to the code of the satellite to be examined is retrieved from the memory of the receiver to be used for analyzing the received signal.

Please replace the paragraph/section beginning on page 11, lines 9-14, as rewritten below:

This is illustrated by the blocks, FHT, ~~FFT1~~, ~~FFT2~~, ...FHTN in Fig. 2. The number of values used in calculations is preferably 1024, because then the discrete Hartley transform can be implemented in practical applications much more efficiently (with an FHT algorithm) than when 1023 values are used. One way of doing this is to add an extra null as the 1024th element. This has an insignificant effect on the transformation result.

Please replace the paragraph/section beginning on page 16, lines 1-13, as rewritten below:

Hartley transformers FHT, ~~FFT1~~, ~~FFT2~~, ...FHTN and/or matched filters. The digital signal processing unit 15 preferably also includes the formation of a coherent search matrix  $A_x$  and the performance of an acquisition step. The digital signal processing unit 15 transmits information about the calculated phase difference and frequency deviation to the processor block 17, which comprises, for example, a microprocessor and I/O logic. The processor block 17 controls the scanning block 8 and the first switch 9. The tracking block 11 is preferably at least partly implemented as program instructions of memory and program memory of the processor block. The second memory media 18 are used as the data memory and program memory of the processor block 17. It is obvious that the first memory media 16 and the second memory media 18 can also comprise common memory. Location determination information can be shown to the user on the display 19.

Please replace the abstract beginning on page 30, lines 1-30, as rewritten below:

The invention relates to a A method for performing synchronization operations of a receiver (1), comprising:

using in the main to a received code-modulated spread spectrum signal. At least one reference code ( $r(x)$ ) is used in the method, which reference code corresponds to a code used in the modulation. The frequency shift of the received signal and the code phase of the code used in the modulation are determined in the method. Hartley transformers are used. The method also includes at least the following steps: sample vector formation step, in which samples (101) are taken from the received signal for forming the sample vector (p(1), p(2)...p(N)), correlation step (102, 103, 104, 105), in which a first Hartley transform ( $\bar{R}(x)$ ) is formed on the basis of said reference code ( $r(x)$ ), and a second Hartley transform (P(i)) is formed on the basis of each sample vector (p(1), p(2)...p(N)), a multiplication is performed between the first Hartley transform ( $\bar{R}(x)$ ) formed on the basis of said reference code and the second Hartley transform (P(i)) formed on the basis of each multiplication result ( $M_x(i)$ ), and acquisition step (110), in which the frequency shift and code phase are acquired on the basis of the inverse Hartley transforms ( $m_x(i)$ ) of the multiplication results ( $M_x(i)$ ).

Fig. 1